

**POSITION SENSOR BASED ON MEASURING CAPACITANCE****ABSTRACT**

5           The armature of a position sensor has one or more electric current  
conductors adapted to be moved into and out of a gap between two capacitor electrodes.  
The capacitance between the capacitor electrodes is measured to determine the position  
of the armature. Electric current in the armature results from electric charges moving  
in the electric current conductors. The electric current conductors are adapted to restrict  
10 electric current therein to directions approximately perpendicular to the surfaces of the  
capacitor electrodes. Preventing current flow parallel to the surfaces of the capacitor  
electrodes in the electric current conductors makes the capacitance measurement  
insensitive to armature movement other than movement that moves the electric current  
conductors into or out of the gap. The position sensor is simpler and less expensive to  
15 make than known capacitance based position sensors.